

REMARKS

Claim 1 is amended to clarify that an annular ridge protrudes from the surface of the valve member intermediate the upstream and downstream seat regions and immediately downstream of the upstream seat region.

Claims 4-10 and 12 are amended to eliminate multiple dependencies.

Claims 1, 8, 9, and 10 are amended to clarify the reference numeral associated with the protruding annular ridge, making the reference consistent with claim 2.

Claim 10 is amended to clarify that the "ridge" recited is the "protruding annular ridge".

These amendments are supported by the specification and the drawings as filed, and no new matter is introduced. Applicant respectfully requests that these amendments be entered without prejudice.

Claim Objections

Claims 5-12 are objected to under 37 CFR 1.75(c) as being in improper form because of being multiple dependent claims dependent on multiple dependent claim 4. As noted above, claims 4-10 and 12 are amended to eliminate multiple dependencies. Applicants respectfully submit that this amendment obviates the objection, and requests that all claims be examined on the merits.

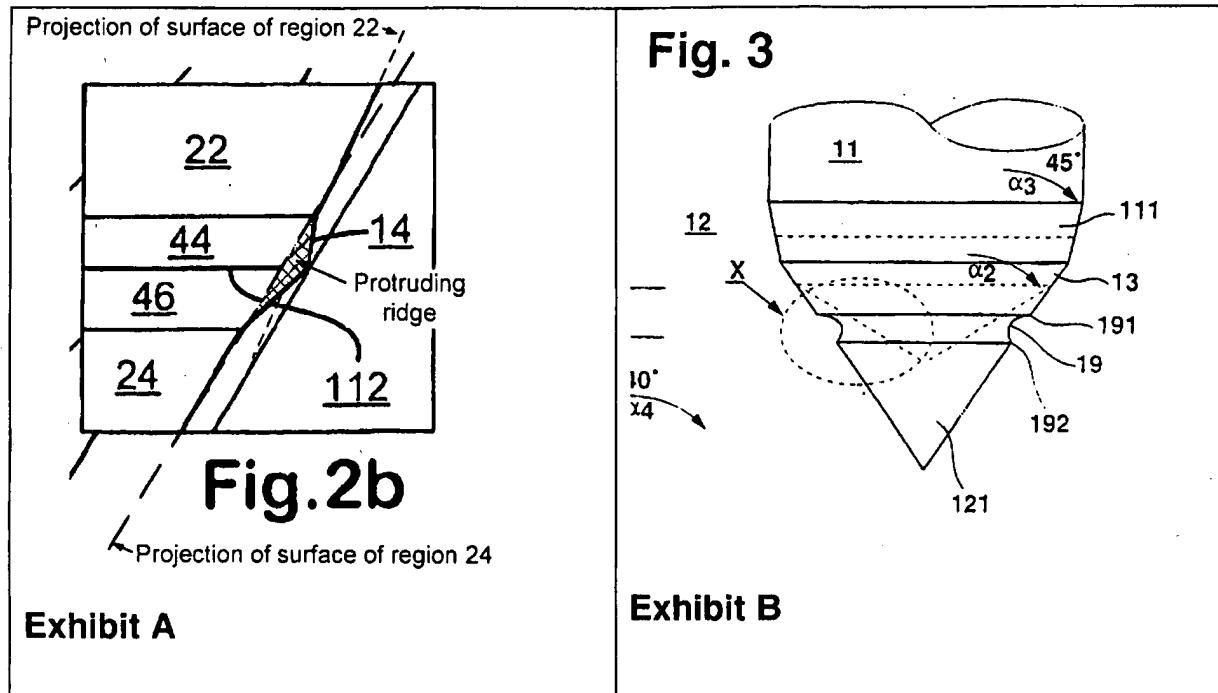
Claim Rejections – 35 USC §102

Claims 1-4 stand rejected under 35 U.S.C. 102(a) as being anticipated by U.S. Patent No. 6,427,932 to Danckert et al. Applicants traverse this rejection.

In Danckert, the seating line between the upstream seat region (transition surface 111) and downstream seat region (sealing surface 13) is merely defined at the line of intersection between these regions. In contrast, Applicants' invention includes a distinct, additional raised ridge (40) between the upstream seat region (22) and the downstream seat region (20, 24) with the ridge defining the seating line. Although Applicants maintain that this distinction was contained in the previous claim 1, the wording of claim 1 has been amended to make this distinction clearer. With this in mind, the wording of claim 1 has been amended to emphasize that there is an annular ridge protruding from the valve needle surface intermediate the upstream and downstream seat regions and immediately downstream of the upstream seat region. The advantages of this protruding annular ridge as disclosed in Applicants' specification (see for example page 10 line 24 *et seq.*) include reducing the risk of unwanted local contact between the seating surface and the valve needle caused by deviation in straightness or form of the seating surface, as well as improving product to product consistency at manufacture.

To further illustrate the distinction between Applicants' invention and Danckert's disclosure, attention is directed to Exhibits A and B below. Exhibit A is an annotated reproduction of Fig. 2b of Applicants' specification. Lines are added representing the projections of the surfaces of upstream seat region 22 and downstream seat region 24, which corresponds to the surface of the valve member absent the protruding ridge. The crosshatched region in Exhibit A represents the *annular ridge protruding from the surface of the valve*

member intermediate the upstream seat region and the downstream seat region and being disposed immediately downstream of the upstream seat region as described in claim 1.



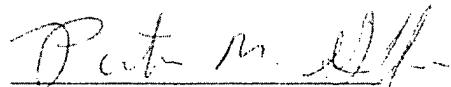
In contrast, Danckert's Fig. 3 is reproduced as Exhibit B. Clearly, Danckert shows no protruding element intermediate the upstream seat region (identified by the Examiner as Danckert's element 111) and the downstream seat region (identified by the Examiner as Danckert's element 13). The line of intersection where these two regions meet does *not protrude* beyond the intersecting surfaces; rather, it is just the natural consequence of the intersection of two conical sections.

The protruding annular ridge of Applicants' invention is neither anticipated nor rendered obvious by Danckert. Applicants respectfully submit that claim 1 is patentable over Danckert, and requests that the rejection of claim 1 be reconsidered and withdrawn.

Regarding claims 2-12, Applicants respectfully submit that these claims are allowable at least for the reason that they depend from claim 1, which is believed to be allowable. Applicants request that the rejection of claims 2-12 be reconsidered and withdrawn.

It is believed, in view of the amendments and remarks herein, that all grounds of objection and rejection have been addressed and overcome, and that all claims are in condition for allowance. The Commissioner is hereby authorized to charge any fees associated with this communication to Deposit Account No. 50-0831.

Respectfully submitted,



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